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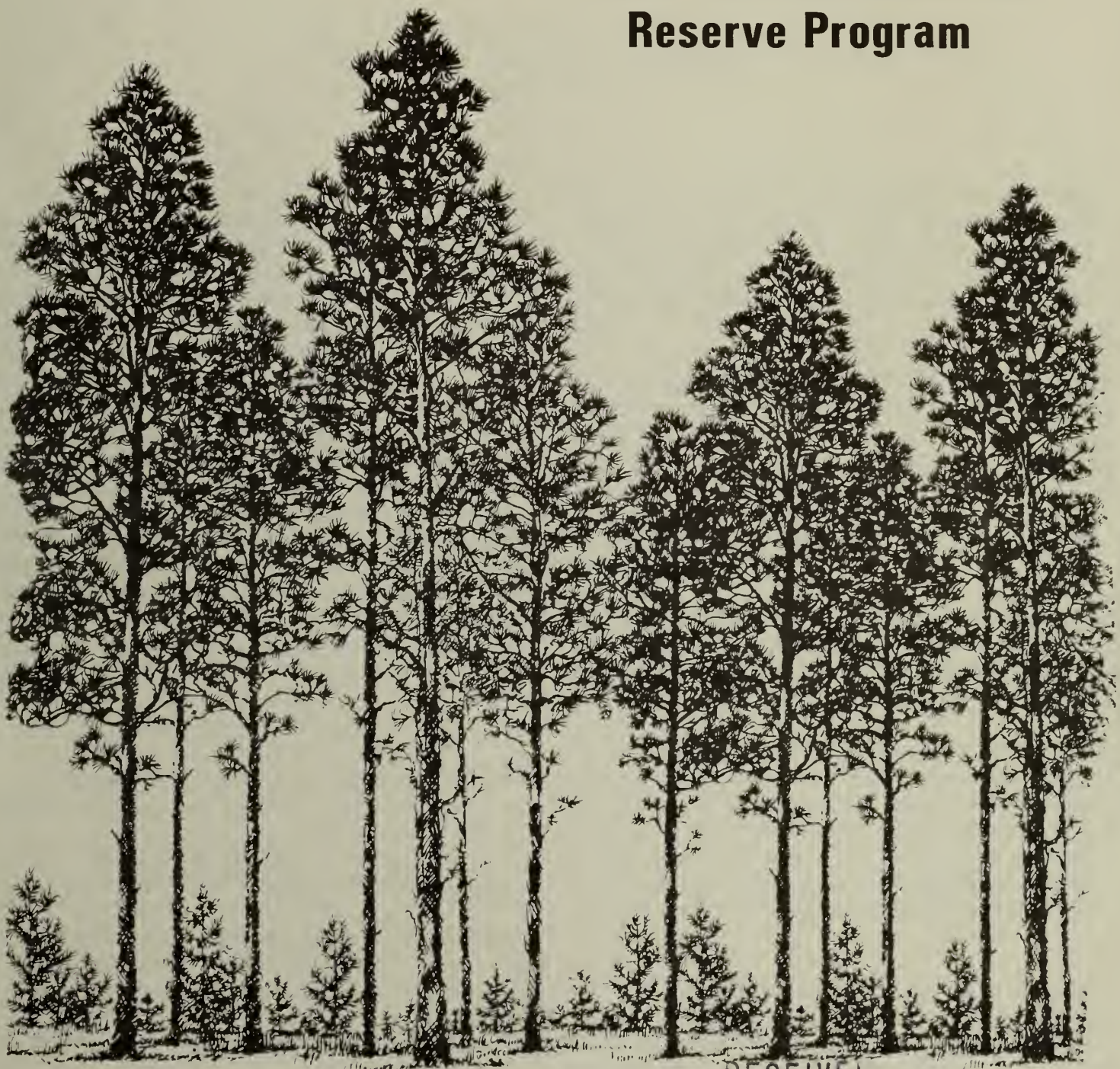
TREE PLANTING

In Georgia

Under The Conservation Reserve Program



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TREE PLANTING
In Georgia

Under The Conservation Reserve Program

by

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The Conservation Reserve Program (CRP or CR) was enacted into law as part of the 1985 Farm Bill on December 23, 1985, to retire from production 40 to 45 million acres of highly erodible cropland nationally. At least one-eighth of the acreage (five million acres) will be planted to trees. Thus, the Conservation Reserve has the potential for being the largest tree planting effort in the nation's history!

In Georgia, almost 1.3 million acres qualify for the Conservation Reserve. Much of this land is better suited for timber production than for other land uses.

This bulletin is a guide for making decisions about entering eligible land into the Conservation Reserve. First, the objectives of the program are described and then eligibility requirements are outlined. Financial analyses of tree planting investments under the CRP are included for comparision with other land use alternatives and for the estimation of an appropriate bid.

PROGRAM OBJECTIVES

The objectives of the Conservation Reserve Program are to:

A. Reduce soil erosion.
B. Improve water quality by reducing soil erosion.
C. Curb production of surplus commodities.
D. Enhance fish and wildlife habitat.
E. Reduce sedimentation in streams and along road sides.
F. Provide income support for farmers.

The CRP has the potential for reducing by 20 percent the annual erosion of cropland. The amount of sediment reaching streams and other surface water from reserve lands could be reduced by 40 percent annually. The amount of pesticides applied annually could be reduced by more than 15 percent. Also, wildlife habitat quality could improve and increase significantly, especially where retired lands are near wetlands.

These objectives of the CRP will be met by establishing and maintaining a permanent cover on eligible cropland.

CROPLAND ELIGIBILITY

For cropland to be eligible, it must meet these two requirements:

1. The land is in capability classes II-V and it is eroding at more than 3T (three times the tolerance rate as calculated by the Universal Soil Loss Equation) or it is in capability Class VI, VII, or VIII. AND
2. The land must have been tilled or diverted under Agricultural Stabilization and Conservation Service (ASCS) programs to produce an agricultural commodity other than orchards, vineyards, or ornamental plantings in any two years from 1981 through 1985. The land must be suitable for crop production.

Soil loss tolerance is the average rate at which natural processes can replace soil erosion losses. On deep soils, the "tolerance" (T) rate of erosion is generally four to five tons per acre per year. On shallower, more fragile soils, the T rate is much lower.

The eight land capability classes are described in the Appendix.

ELIGIBLE COVER PRACTICES

The permanent cover types that can be established on eligible cropland have been selected to minimize erosion. Each must be maintained for at least 10 years. Costs of establishing the cover are eligible for a 50 percent cost share payment, which in most cases is based on a flat rate for the particular practice. The eligible cover practices are:

1) Trees.
2) Permanent Wildlife Habitat.
3) Permanent Introduced Grasses and Legumes.
4) Permanent Native Grasses and Legumes.
5) Field Windbreaks. (Not applicable to Georgia).
6) Combinations of the above.

In areas where cover establishment is prevented by site erosion problems, these structures can qualify for cost sharing if a structure is required to establish the Conservation Reserve cover type and reduce excessive erosion: diversions, ditches, dikes, water outlets, excavations, sediment structures, and grass waterways. Also, cost-sharing is authorized to assist wildlife pond construction by allowing earthmoving to construct dams, levees, dugouts, or dikes, if needed, to develop or restore shallow water areas. Permanent plantings in the floodable area can also be cost-shared.

ANNUAL RENTAL PAYMENT

In addition to receiving the 50 percent cost share for establishing the permanent cover, you will also receive an annual rental payment for 10 years for keeping the enrolled land in that cover. The amount of the annual payment will be determined through a competitive bidding process wherein all bids are placed in a pool and the lowest bids are accepted first.

OTHER PROVISIONS

In order for you to participate in the program you must have owned the land a minimum of three years prior to the signing of a Conservation Reserve contract, or since January 1, 1985, whichever is later. The land can not have been acquired for the purpose of placing it in this program.

CRP lands will be devoted to soil conservation for a 10-year period. Harvesting, grazing, or other commercial use of the land and its products are NOT allowed. Wildlife leases are allowed. Maintenance measures, such as weed control are required. Any activity on other non-contract lands that will defeat the soil conserving purpose of this program is expressly forbidden. The cover type specified in the contract must be established by the end of the next normal planting period. A temporary cover to control erosion may be required until the permanent cover is established.

The total amount of rental payments may not exceed $50,000 in any fiscal year. Payments may be made in cash or "in-kind" commodities. The minimum acreage you can put into the program is 10 acres, or a whole field of less than 10 acres. The maximum acreage which can be placed in the Conservation Reserve may not exceed 25 percent of the cropland in any one county.

It is not required that you own the land in order to enter a contract. If the applicant has operated on the land for at least three years and can show that control of the land will be retained for the contract period, the applicant can enter into the contract. A participant who sells or loses control of the land in the CRP to a new owner who refuses to honor the CRP contract, will have to refund the cost-share assistance and all annual rental payments plus interest.

All highly erodible lands will be subject to a "sodbuster" penalty if converted back to crops without an approved conservation plan after the 10 year CRP contract expires.

TREE AND WILDLIFE PLANTINGS

In cases where tree planting is a viable alternative, as on most of Georgia's soils, planting costs can be less for trees than for the other cover types. Trees can be planted with minimal site preparation and without the use of expensive fertilizers. Planting trees may actually be the least expensive method of establishing a vegetative cover. Also, when the 10-year contract expires, the producer will own a valuable stand of income-producing timber.

If you examine the economic returns from traditional agricultural commodities versus timber production on many of Georgia's soils, you will find that trees often reflect a higher rate of return, under current market conditions. Trees in Georgia are a cash crop yielding relatively high returns. The Conservation Reserve will help participants establish and maintain a valuable commodity.

One suggestion for moving into the Conservation Reserve is to produce a conservation plan through your local Soil Conservation District and Soil Conservation Service (SCS) personnel, and a forest plantation management plan with your Georgia Forestry Commission forester. Land suitable for plantation management should be devoted to tree culture; while stream edges, waterways, poorly drained areas, and flood prone areas should be incorporated into permanent wildlife habitat. The diversity of food and cover will tend to maximize wildlife use while the most economically efficient crop, trees, are producing a valuable product. Pine

forests surrounding shallow ponds, green-tree reservoirs, and tree/shrub corridors would be ideal for providing both economic and aesthetic benefits.

FINANCIAL RETURNS FROM TREE PLANTING

Every financial analysis requires making assumptions about the amount and timing of anticipated costs and returns. The assumptions used in this analysis are discussed below.

Pine Yields

Soils vary in their potential to produce wood. This potential is measured by site index, which is represented numerically by the total height of dominant and codominant trees in a stand at a specific base age. For natural stands, this base age is 50 years; for plantations, it is 25 years. The site index for a particular Georgia soil can be found in Table A.1 of the Appendix. Pine pulpwood yields for various site indices are obtained by using published yield equations. [1] Yields at age 20 for various site indices are listed in Table 1.

Table 1. 20-Year Pulpwood Yields by Site Index.

Site Index (Base Age 25)	Yield (Cords)
50	23.6
55	30.9
60	39.6
65	49.2
70	60.3

Production Costs

The cost of establishing pines (seedling cost plus planting) on open land was estimated at $44 per acre. Likewise, the CRP 50 percent cost sharing payment was set at $22 per acre, which is the likely 1986 flat rate for this practice in Georgia. The annual cost of managing the new stand was estimated to be $1.50 per acre per year. Management costs are expected to rise at an annual inflation rate of four percent.

Pulpwood Prices

Pulpwood prices vary from $10 to $35 per cord in $5 increments. In calculating anticipated future prices for pulpwood, an annual inflation factor of five percent was used.

Annual Rental Payment

A range of annual rental payments ($10 to $60 per acre per year in $10 increments) is included to assist you in establishing a bid level.

Taxes

For income tax purposes, the following assumptions were made:

1. The taxpayer is in the 25 percent marginal tax bracket. This means that for each dollar of additional income he or she will pay 25 cents in taxes. (Higher or lower marginal tax rates have little effect on the financial returns).

2. Establishment costs are capitalized and recovered through the depletion allowance when timber is sold.

3. The cost share payment and the annual rental payments are taxed as ordinary income.

4. Timber sale revenue is afforded long term capital gains treatment.

Exclusion of Fixed Costs

Costs of land ownership and ad valorem property taxes are not included in the analysis since they will be incurred regardless of land use. These "fixed" costs are irrelevant to the decision of whether to plant trees under the Conservation Reserve Program and what the bid level should be on the annual rental payment.

Estimation of Cash Flows

The anticipated annual cash flows from a 20 year rotation on site index 60 (base age 25) land where current pulpwood prices are $25 per cord and the landowner receives a CRP payment of $20 per acre are listed in Table 2.

[1] Yield equations from (1) Volume Tables for Old-Field Loblolly Pine Plantations in the Georgia Piedmont, Bailey and Clutter, Georgia Forest Research Council Report No. 22 - Series 2, August 1970. (2) Cubic-foot Yield Tables for Old-Field Pine Plantations in the Georgia Piedmont, Lenhart and Clutter, Georgia Forest Research Council Report No. 22 - Series 3, March 1971.

Table 2. Sample Cash Flow from a Loblolly Pine Investment Under the Conservation Reserve Program, Dollars Per Acre.

– Site index: 60 (base 25 years)
– Yield (20 yrs.): 39.6 cords pulpwood per acre
– Stumpage Price: $25 per cord
– CRP annual payment: $20 per acre

YEAR	ITEM	BEFORE–TAX CASH FLOW	INCOME TAX EFFECT	AFTER–TAX CASH FLOW	CUMULATIVE TOTAL CASH FLOW
1	Planting	$– 44.00	$– .00	$– 44.00	$– 44.00
1	Management Cost	– 1.50	.37	– 1.13	– 45.13
1	Cost Share Payment	22.00	– 5.50	16.50	– 28.63
1	CRP Payment	20.00	– 5.00	15.00	– 13.63
2	Management Cost	– 1.56	.39	– 1.17	– 14.80
2	CRP Payment	20.00	– 5.00	15.00	.20
3	Management Cost	– 1.62	.41	– 1.21	– 1.01
3	CRP Payment	20.00	– 5.00	15.00	13.99
4	Management Cost	– 1.69	.42	– 1.27	12.72
4	CRP Payment	20.00	– 5.00	15.00	27.72
5	Management Cost	– 1.75	.44	– 1.31	26.41
5	CRP Payment	20.00	– 5.00	15.00	41.41
6	Management Cost	– 1.82	.46	– 1.36	40.05
6	CRP Payment	20.00	– 5.00	15.00	55.05
7	Management Cost	– 1.90	.47	– 1.43	53.62
7	CRP Payment	20.00	– 5.00	15.00	68.62
8	Management Cost	– 1.97	.49	– 1.48	67.14
8	CRP Payment	20.00	– 5.00	15.00	82.14
9	Management Cost	– 2.05	.51	– 1.54	80.60
9	CRP Payment	20.00	– 5.00	15.00	95.60
10	Management Cost	– 2.13	.53	– 1.60	94.00
10	CRP Payment	20.00	– 5.00	15.00	109.00
11	Management Cost	– 2.22	.56	– 1.67	107.33
12	Management Cost	– 2.31	.58	– 1.73	105.60
13	Management Cost	– 2.40	.60	– 1.80	103.80
14	Management Cost	– 2.50	.62	– 1.87	101.93
15	Management Cost	– 2.60	.65	– 1.95	99.98
16	Management Cost	– 2.70	.68	– 2.03	97.95
17	Management Cost	– 2.81	.70	– 2.11	95.84
18	Management Cost	– 2.92	.73	– 2.19	93.65
19	Management Cost	– 3.04	.76	– 2.28	91.37
20	Management Cost	– 3.16	.79	– 2.37	89.00
20	Final Harvest	$ 2501.68	$–245.77	$ 2255.91	$ 2344.91

Annual Equivalent Return
8% After-Tax Discount Rate = $61.21

Using Tables 3-7

You will need to determine three things prior to using the following tables:

(1) the site index of your soil; (2) a suitable after-tax discount rate; (3) the average stumpage price for pulpwood in your area.

The site index of your land can be easily determined by finding your soil series in a county soil survey book available at the local SCS office. If you have a current conservation plan for your land, you can also refer to that plan for soil series information. After determining the soil series, look up the site index for that soil series in the appendix of this bulletin.

The choice of a suitable after-tax discount rate is more difficult. Any after-tax discount rate can either be viewed as (a) the compound rate of interest (after-tax) your money could earn in some other investment besides tree planting or (b) the interest rate (after-tax) you must pay to borrow money for tree planting. For example, if the producer feels that an alternative investment (such as a certificate of deposit) could earn a rate of return of 8 percent, before-tax, then 6 percent would be the appropriate discount rate, after-taxes, for a taxpayer in the 25 percent tax bracket. The formula for calculating after-tax interest rates from before-tax rates is:

$$i_{at} = i_{bt}\ (1\text{-}t)$$

where, t= marginal tax rate (as a decimal)

i_{at} = interest rate, after-tax

i_{bt}=interest rate, before-tax

Substituting, i_{at}=8% (1-.25)

=8% x .75 = 6%

Average pulpwood prices for your area can be obtained from your local county Extension agent or from the Georgia Forestry Commission. County agents receive a monthly "Timber Market Report" that provides stumpage price information for several forest products including pulpwood. While this information has some limitations, it is quite satisfactory for the purpose of planning a tree planting investment.

The steps in using the tables are as follows:

1. Determine your soil series from a county soil survey or SCS conservation plan.
2. Look up the site index for that series in Table A.1 of the Appendix.
3. Go to the table corresponding to that site index. (Table 3 for Site Index 50; Table 4 for Site Index 55; Table 5 for Site Index 60; Table 6 for Site Index 65; or Table 7 for Site Index 70).
4. Choose the appropriate discount rate, after-tax, and move down to that section of the table.
5. In the appropriate discount rate section of the table, find the pulpwood price for your area ($10-35), then look across the columns to compare annual equivalent returns without CRP and at various annual rental payments under the CRP.

Here is an example:

- Suppose your land is classified as the Cecil soil series, a relatively poor soil.
- A look at the Appendix indicates that the Cecil soil series has a site index of 54. Round this value to the nearest five feet.
- Turn to the table for Site Index 55 (Table 4).
- Choose eight percent as the appropriate after-tax discount rate. Do this because you can earn 10.67 percent, before-tax, on a certificate of deposit and are in the 25 percent marginal tax bracket (8% = 10.67% (1-.25)). Go to the eight percent section of Table 4.
- Locate $20 per cord as the appropriate price for pulpwood in your area.
- Note that under these conditions, a tree planting investment will generate annual equivalent returns of $27.76 per acre without the Conservation Reserve Program. Under the CRP and with an annual rental payment of $10 per acre per year for ten years, the annual equivalent return is increased to $35.15 for the 20-year pulpwood rotation. Increasing the annual rental payment to $60 increases the annual equivalent return to $63.43. The annual equivalent return can be interpreted as an annuity that spreads the net cash flow (after-taxes and including interest) uniformly over the 20-year loblolly pine rotation.

Annual equivalent returns from tree planting can be compared directly with the annual returns from row crops or land rental. In making the comparison with row crops, be sure to account for participation in any commodity programs and be sure you are comparing after-tax returns. A land rental comparison is more direct.

If site index 55 land can be rented as cropland outside the CRP for $30 per acre per year, before-tax, it will return $22.50 per acre after-tax to a landowner in the 25 percent tax bracket. At eight percent interest, $20 per cord, and an annual rental payment of $30 under the CRP, the same land will yield an annual equivalent return of $46.46, after-tax.

What should your bid be on the annual rental payment under the CRP? That answer is entirely up to you. Hopefully, these tables will be of use in reaching that decision. Remember, however, that final returns will depend on the yields, costs and prices actually received. The only near certainty is the annual rental payment received under a CRP contract. That, of course, is what you are bidding on.

Table 3. Annual Equivalent Returns for Loblolly Pine on Site Index 50 Land, Dollars per acre

After-Tax Discount Rate	Pulpwood Price Per Cord	Returns Without CRP	Returns with CRP Annual Rental Payment					
			$10	$20	$30	$40	$50	$60
6%	$10	10.39	17.12	22.36	27.60	32.85	38.09	43.33
	$15	18.34	25.06	30.31	35.55	40.80	46.04	51.28
	$20	26.29	33.01	38.26	43.50	48.75	53.99	59.23
	$25	34.24	40.96	46.21	51.45	56.69	61.94	67.18
	$30	42.19	48.91	54.16	59.40	64.64	69.89	75.13
	$35	50.14	56.86	62.10	67.35	72.59	77.84	83.08
8%	$10	6.80	14.18	19.84	25.50	31.15	36.81	42.47
	$15	13.27	20.65	26.31	31.97	37.63	43.29	48.95
	$20	19.75	27.13	32.79	38.44	44.10	49.76	55.42
	$25	26.22	33.60	39.26	44.92	50.58	56.24	61.90
	$30	32.70	40.08	45.74	51.39	57.05	62.71	68.37
	$35	39.17	46.55	52.21	57.87	63.53	69.19	74.85
10%	$10	3.65	11.69	17.75	23.81	29.87	35.93	41.99
	$15	8.90	16.93	22.99	29.05	35.11	41.17	47.23
	$20	14.15	22.18	28.24	34.30	40.36	46.42	52.48
	$25	19.39	27.42	33.48	39.54	45.60	51.66	57.72
	$30	24.64	32.67	38.73	44.79	50.85	56.91	62.97
	$35	29.88	37.92	43.98	50.04	56.10	62.16	68.22

Table 4. Annual Equivalent Returns for Loblolly Pine on Site Index 55 Land, Dollars Per Acre.

After-Tax Discount Rate	Pulpwood Price Per Cord	Returns Without CRP	Returns with CRP Annual Rental Payment					
			$10	$20	$30	$40	$50	$60
6%	$10	15.31	22.03	27.28	32.52	37.76	43.01	48.25
	$15	25.72	32.44	37.68	42.93	48.17	53.42	58.66
	$20	36.13	42.85	48.09	53.34	58.58	63.82	69.07
	$25	46.53	53.26	58.50	63.24	68.99	74.23	79.48
	$30	56.94	63.66	68.91	74.15	79.40	84.64	89.88
	$35	67.35	74.07	79.32	84.56	89.80	95.05	100.29
8%	$10	10.80	18.18	23.84	29.50	35.16	40.82	46.48
	$15	19.28	26.66	32.32	37.98	43.64	49.30	54.96
	$20	27.76	35.14	40.80	46.46	52.12	57.78	63.43
	$25	36.24	43.61	49.27	54.93	60.59	66.25	71.91
	$30	44.72	52.09	57.75	63.41	69.07	74.73	80.39
	$35	53.19	60.57	66.23	71.89	77.55	83.21	88.87
10%	$10	6.90	14.93	20.99	27.05	33.11	39.17	45.23
	$15	13.77	21.80	27.86	33.92	39.98	46.04	52.10
	$20	20.64	28.67	34.73	40.79	46.85	52.91	58.97
	$25	27.50	35.54	41.60	47.66	53.72	59.78	65.84
	$30	34.37	42.41	48.47	54.53	60.59	66.65	72.31
	$35	41.24	49.27	55.33	61.39	67.45	73.51	79.57

Table 5. Annual Equivalent Returns for Loblolly Pine on Site Index 60 Land, Dollars Per Acre.

After-Tax Discount Rate	Pulpwood Price Per Cord	Returns Without CRP	Returns with CRP Annual Rental Payment					
			$10	$20	$30	$40	$50	$60
6%	$10	21.17	27.89	33.14	38.38	43.63	48.87	54.11
	$15	34.51	41.23	46.48	51.72	56.96	62.21	67.45
	$20	47.85	54.57	59.81	65.06	70.30	75.55	80.79
	$25	61.19	67.91	73.15	78.40	83.64	88.88	94.13
	$30	74.52	81.25	86.49	91.73	96.98	102.22	107.47
	$35	87.86	94.59	99.83	105.07	110.32	115.56	120.81
8%	$10	15.58	22.96	28.62	34.27	39.93	45.59	51.25
	$15	26.44	33.82	39.48	45.14	50.80	56.46	61.12
	$20	37.31	44.68	50.34	56.00	61.66	67.32	72.98
	$25	48.17	55.55	61.21	66.87	72.53	78.19	83.85
	$30	59.04	66.41	72.07	77.73	83.39	89.05	94.71
	$35	69.90	77.28	82.94	88.60	94.26	99.92	105.58
10%	$10	10.77	18.80	24.86	30.92	36.98	43.04	49.10
	$15	19.57	27.60	33.60	39.72	45.78	51.84	57.90
	$20	28.37	36.40	42.46	48.52	54.58	60.64	66.70
	$25	37.17	45.21	51.27	57.33	63.39	69.45	75.51
	$30	45.98	54.01	60.07	66.13	72.19	78.25	84.31
	$35	54.78	62.81	68.87	74.93	80.99	87.05	93.11

Table 6. Annual Equivalent Returns for Loblolly Pine on Site Index 65 Land, Dollars Per Acre.

After-Tax Discount Rate	Pulpwood Price Per Cord	Returns Without CRP	Returns With CRP Annual Rental Payment					
			$10	$20	$30	$40	$50	$60
6%	$10	27.64	34.36	39.60	44.85	50.09	55.34	60.58
	$15	44.21	50.93	56.18	61.42	66.66	71.91	77.15
	$20	60.78	67.50	72.75	77.99	83.24	88.48	93.72
	$25	77.35	84.08	89.32	94.56	99.81	105.05	110.30
	$30	93.93	100.65	105.87	111.14	116.38	121.62	126.87
	$35	110.50	117.22	122.46	127.71	132.95	138.20	143.44
8%	$10	20.85	28.22	33.88	39.54	45.20	50.86	56.52
	$15	34.34	41.72	47.38	53.04	58.70	64.36	70.02
	$20	47.84	55.22	60.88	66.54	72.20	77.86	83.52
	$25	61.34	68.72	74.38	80.04	85.70	91.36	97.02
	$30	74.84	82.22	87.88	93.54	99.20	104.86	110.52
	$35	88.34	95.72	101.38	107.04	112.69	118.35	124.01
10%	$10	15.03	23.07	29.13	35.19	41.25	47.31	53.37
	$15	25.97	34.00	40.06	46.12	52.18	58.24	64.30
	$20	36.91	44.94	51.00	57.06	63.12	69.18	75.24
	$25	47.84	55.88	61.94	68.00	74.06	80.12	86.18
	$30	58.78	66.81	72.87	78.93	84.99	91.05	97.11
	$35	69.71	77.75	83.81	89.87	95.93	101.99	108.05

Table 7. Annual Equivalent Returns for Loblolly Pine on Site Index 70 Land, Dollars Per Acre.

After-Tax Discount Rate	Pulpwood Price Per Cord	Returns Without CRP	Returns with CRP Annual Rental Payment					
			$10	$20	$30	$40	$50	$60
6%	$10	35.12	41.84	47.08	52.33	57.57	62.81	68.06
	$15	55.43	62.15	67.39	72.64	77.88	83.12	88.37
	$20	75.74	82.46	87.80	92.95	98.19	103.44	108.68
	$25	96.05	102.77	108.01	113.26	118.50	123.75	128.99
	$30	116.36	123.08	128.32	133.57	138.81	144.06	149.30
	$35	136.67	143.39	148.64	153.88	159.12	164.37	169.61
8%	$10	26.94	34.31	39.97	45.63	51.29	56.95	62.61
	$15	43.48	50.86	56.52	62.18	67.84	73.50	79.16
	$20	60.02	67.40	73.06	78.72	84.38	90.04	95.70
	$25	76.57	83.95	89.61	95.27	100.92	106.58	112.24
	$30	93.11	100.49	106.15	111.81	117.47	123.13	128.79
	$35	109.66	117.03	122.69	128.35	134.01	139.67	145.33
10%	$10	19.97	28.00	34.06	40.12	46.18	52.24	58.30
	$15	33.37	41.41	47.47	53.53	59.59	65.65	71.71
	$20	46.78	54.81	60.87	66.93	72.99	79.05	85.11
	$25	60.18	68.21	74.27	80.33	86.39	92.45	98.51
	$30	73.58	81.61	87.67	93.73	99.79	105.85	111.91
	$35	86.98	95.02	101.08	107.14	113.20	119.26	125.32

APPENDIX

The Land Capability Classification System[2]

Land capability is an expression of the suitability of a soil for crop production. Under this system, soils are classified according to their limitations, risk of erosion, and response to management. The eight capability classes are designated by Roman numerals I through VIII, with the higher numerals indicating progressively greater limitations and fewer management choices.

Description of Land Capability Classes:

Class I Soils have few limitations that restrict their use.

Class II Soils have moderate limitations that reduce the choice of plants or that require moderate conservation practices.

Class III Soils have severe limitations that reduce the choice of plants and require special conservation practices.

Class IV Soils have very severe limitations that reduce the choice of plants and require very careful management.

Class V Soils are not likely to erode but have other limitations, impractical to remove, that limit their use largely to pasture, woodland, or wildlife (soils in this class will not qualify for the CRP program in Georgia.)

Class VI Soils have severe limitations that make them generally unsuitable for cultivation and limit their use largely to pasture, woodland, or wildlife.

Class VII Soils have severe limitations that make them unsuitable for cultivation and restrict their use to pasture, woodland, or wildlife.

Class VIII Soils and land forms have limitations that preclude their use for commercial crop production and restrict their use to recreation, wildlife, or water supply, or to esthetic purposes. (Uncommon in Georgia.)

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[2] Source: Adapted freely from "Georgia's Land: Its Use and Condition," State Soil and Water Conservation Committee, 1984, 16 pp.

Table A.1 Site Index (25 year basis) of Selected Soil Series in Georgia.

Soil Series	Site Index	Soil Series	Site Index	Soil Series	Site Index
Ailey	57	Congaree	68	Goldston	55
Alapaha	65	Cowarts	65	Grady, Drained	68
Albany	71	Cowarts, Gravelly	60	Greenville	64
Albertville	60	Coxville	68	Grover	56
Altavista	68	Craven	60	Guthrie	60
Americus	63	Davidson	61	Hartsells	53
Angie	65	Decatur	60	Hayesville	68
Apison	60	Dewey	60	Hayesville, Stony	68
Appling	61	Dillard	68	Hazlehurst	68
Aragon	60	Dogue	68	Helena	60
Ardilla	68	Dothan	67	Henderson	60
Arkaqua	67	Dowellton	60	Herndon	60
Augusta	67	Dunbar	68	Herod	75
Beason	60	Duplin	68	Hiawassee	56
Bibb	67	Dyke	68	Holston	64
Bladen	71	Dyke, Stony	68	Hornsville	68
Blaney	57	Echaw	64	Hulett	56
Blanton	60	Egam	68	Iredell	53
Bonifay	60	Ellabelle	68	Irvington	68
Boswell	60	Emory	68	Iuka	75
Braddock	64	Ennis	68	Izagora	68
Bradson	60	Enon	53	Jefferson	60
Brookman	72	Enon, Stony	54	Johns	65
Buncombe	68	Esto	60	Kalmia	66
Cahaba	65	Etowah	68	Kanapha	60
Cainhoy	57	Euharlee	60	Kershaw	41
Capshaw	60	Eulonia	68	Kinston	60
Carnegie	65	Enuola	68	Kolomoki	71
Cartecay	71	Eustis	60	Lakeland	56
Cecil	54	Evard	60	Leadvale	60
Cedarbluff	68	Faceville	62	Leaf	68
Centenary	64	Fannin	64	Leefield	63
Chatuge	75	Farragut	60	Linker	49
Chestatee	53	Foxworth	49	Lockhart	59
Chewacla	64	Fripp	53	Locust	60
Chipley	68	Fullerton	56	Louisa	54
Clarendon	68	Fuquay	62	Louisburg, Stony	58
Colbert	49	Georgeville	61	Louisburg	58
Colfax	60	Gilead	62	Lowndes	60
Conasauga	54	Goldsboro	68	Lucy	60

Soil Series	Site Index	Soil Series	Site Index	Soil Series	Site Index
Lumbee	71	Rains	71	Toccoa	68
Lyerly	50	Ramsey	55	Townley	53
Lynchburg	65	Red Bay	68	Toxaway	64
Madison	60	Rembert	68	Transylvania	64
Marlboro	62	Riceboro	71	Troup	60
Masada	62	Riverview	75	Tupelo	60
Mascotte	60	Roanoke	65	Valdosta	61
Maxton	68	Robertsdale	68	Vance	57
Mecklenburg	56	Rome	64	Varina	57
Meggett	75	Rutlege	68	Varina, Gravelly	57
Minvale	60	Saluda	53	Wagram	62
Molena	60	Sapelo	58	Wahee	65
Montevallo	50	Sawyer	68	Wax	60
Mountview	60	Sequatchie	68	Waynesboro	64
Muckalee	68	Sequoia	58	Wedowee	55
Musella, Gravelly	57	Shack	60	Wedhadkee	76
Musella, Stony	54	Shelocta	56	Wickham	68
Myatt	66	Shouns	60	Wicksburg	60
Nankin	60	Shouns, Stony	60	Wilkes	56
Nason	60	Shubuta	60	Wolftever	60
Nolichucky	60	Starr	76		
Norfolk	65	Staser	68		
Ochlockonee	75	State	71		
Ocilla	64	Steekee	53		
Ogeechee	68	Stilson	62		
Oktibbeha	62	Subligna	64		
Olustee	60	Suches	68		
Orange	56	Sunsweet	64		
Orangeburg	60	Surrency	71		
Osier	65	Susquehanna	59		
Ousley	60	Sweetapple	53		
Pacolet	60	Taft	64		
Pelham	68	Talbott	56		
Pelion	60	Tallapoosa	53		
Persanti	68	Tallapoosa, Gravelly	53		
Plummer	69	Tate	68		
Pooler	65	Tatum	59		
Portsmouth	72	Tellico	56		
Rabun	68	Tidings	60		
Rabun, Stony	68	Tifton	65		

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